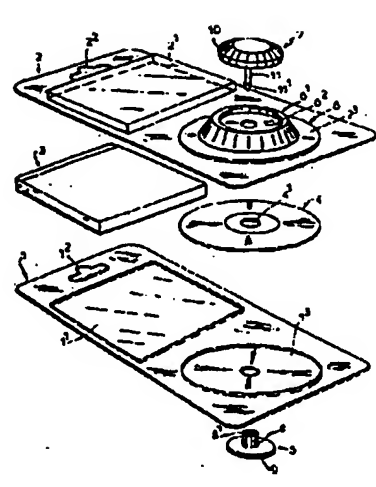


19 FRENCH REPUBLIC NATIONAL INDUSTRIAL PROPERTY INSTITUTE PARIS	11 Publication No. 21 National registration No. 51 Int Cl ⁴ B 65 D 75/32, 55/02, 85/57.	:2 608 564 86 18463
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12 APPLICATION FOR PATENT OF INVENTION A1

22 Filing date: December 23, 1986 30 Priority: 43 Date the application was made available to the public: BOPI "Brevets" issue No. 25 of June 24, 1988 60 References to other related national documents:	71 Applicant(s): VELFOR-PLAST SA, France 72 Inventor: Pierre Brun 73 Holder(s): 74 Representative: Cabinet Charras agency
64 Packaging for products in theft-proof plastic shell, in particular for musical recording disks and computer disks.	
57 This packaging is remarkable in that it contains a first shell, constructed having an element equipped with at least one locking device rendering the packaging theft proof; the second shell is constructed with a shaped form, overlapping externally, of variable depth, constructed to receive and hold the second locking device, the connection between said locking devices being ensured within the internal chamber defined in form opposite the first shell, said locking device adapting to the product contained, either by surrounding it at one or more points, or by penetrating into the open or closed openings inherent to the constitution of the product considered and allowing the passage of the coupling elements of the locking device.	

The purpose of the invention is a product packaging in the form of a theft-proof plastic shell, and in particular for musical recording disks and computer disks.

The invention is related to the technical sector of product packaging in the form of plastic shells, and in particular, of covers and protectors for disks of all uses.

The sale of products in plastic shells requires an absolutely durable and tidy fixation and connection of the male/female shells of the packages considered. In practice, when the connection of said shells does not provide sufficient closure, this enables malevolent persons to separate them, thus opening the packaging and removing the product for sale.

This problem is especially acute for the sale of disks, in particular recording disks.

Indeed, more and more, currently, the sale of disks, in particular recording disks is carried out in so-called department stores with the presentation of products on shelves. In order to present the products in a manner that is aesthetically pleasing and easy to consult, the disks are packaged in small display-cards comprising a plastic shell. These packages are constructed, for example, of a circular hollow to hold and center the disk, and also, as an additional function, enables the arrangement of the protecting cassettes of the disks after-sale, and preventing deterioration to the packaging.

Furthermore, and additionally, besides theft, one cannot discount the risk of shock to the disk despite the protection provided by the packaging shells.

The objective of this invention is to remedy these inconveniences.

The solution proposed is simple and responds satisfactorily, without adversely affecting either the aesthetics of the presentation, or the pre-sale quality of the product, and in particular of the disks.

According to a first characteristic, the packaging is characterized in that the first shell is constructed having a first element having at least one locking device rendering the packaging theft proof; the second shell is constructed with a shaped form overlapping externally, of variable depth, constructed to receive and hold the second element of the locking device, the connection between said locking elements is carried out within the interior chamber defined by the opposite form of the first shell, either by surrounding it or by penetrating into the open or closed openings inherent to the constitution of the product considered and allowing the passage of the coupling elements of the locking device.

According to an embodiment of the packaging in its application in the protection of disks, the packaging is characterized in that the first shell is constructed in relationship to the center of the positioning opening of the disk with a first element of a locking device rendering the packaging theft proof; the second shell is constructed in the axial plane of the center of the disk with a shaped form in a drum overlapping externally, of variable depth, constructed to receive and hold the second locking device, the connection between said locking elements is carried out within the interior chamber defined by the drum opposite the first shell.

These characteristics and others more will become apparent following the description.

To establish the objective of the invention illustrated in a non-limiting manner in the figures in the drawings.

Figure 1 is an exploded view of the different constituent parts of a packaging unit according to the invention in its application to disks.

Figure 2 is a longitudinal cross-sectional view of the packaging according to the A-A line, with a first locking mode in the position of the disk.

Figure 3 is a rear view of the packaging according to the invention.

Figure 4 is a frontal view of the packaging.

Figure 5 is a lateral cross-sectional view illustrating a second mode of locking in the position of the disk.

Figure 6 is a lateral cross-sectional view illustrating a third mode of locking in the position of the disk.

In order to make the objective of the invention more concrete, we now will describe it in a non-limiting manner while referring to the figures in the drawings.

Referring to figure 1, it can be seen that the packaging is comprised of two shells, (1, 2) constructed of transparent plastic material, in any format desired, able to be attached to one another at their peripheral borders by heat sealing, for example. They are constructed internally with a hollow (1.1 – 2.1) complemented by a rectangular section for the arrangement of cassettes (3), for example, and a cutout (1.2 – 2.2) for the passage of a hanging rod for the finished packaging.

The first shell (1) corresponding to the frontal face of the packaging presented is constructed with an element (1.3) for the centering and positioning of a recording disk (4), for example a laser disk, or disks used in computers. Said element (1.3) is constructed in the form of a circular hollow more or less deep to completely or partially hold the disk as illustrated, either by different pins or curved ribs for centering, positioned on the periphery of the product to be held. According to a characteristic of the invention, in the central part of the bottom of the shell corresponding to the center or positioning opening of the disk, it is provided with a first element (5) of a locking device serving to render the packaging theft proof. This first element could be the male or female element and will be described in a non-limiting manner referring to figures 1, 2, 5, and 6.

The second shell (2) of the packaging is constructed in its part coming to position itself opposite the disk, additionally having if necessary an element contributing to the centering and holding of the disk (4). This element may be in addition to the circular hollow (1.3) formed in the first shell, another circular hollow (2.3).

According to an essential characteristic of the invention, it is provided for, in addition to the rear shell (2) in the axial plane of the center of the disk, a drum (6) shaped in a cylindrical form, or other, of a various or continuous thickness. This drum is constructed on its rear face (6.1) with a central interior hollow (6.2) allowing the passage, centering, and holding of the second element (7) of the aforementioned locking device. Furthermore, according to the example in figure 5, the interior wall (6.3) perpendicular to the longitudinal axis of the drum (6) having a wall (6.4) recessed into the drum, this wall forming a shoulder ring being a cylindrical, conical, or otherwise section. The end (6.5) of this interior wall is located slightly within the connection plane of the drum and the general plane of the shell (2) or, if a circular hollow (2.3) is planned, on the aforementioned shell in relationship with the plane of the latter, as it appears in figure 5.

The aforementioned drum (6) can be of a more or less great depth. It is constructed in one single piece with the shell (2).

The drum thus constructed allows for the adaptation of the second element (7) of the locking device intended to work together with the first element mounted to the shell (1).

Figures 1 and 2 show a first method for assembling the constituent parts of the locking device. The front shell (1) presents directly or in an added-on manner a cylindrical tube (8), hollow internally, forming retaining lips (8.1) able to spread apart by elastic deformation. This pin is directly preformed on the internal wall of the shell (1). In a variant, this pin is constructed in one piece with a disk (9) mounted on the external face of the shell (1).

This pin penetrates the opening (4.1) of the disk. Additionally, a shaped tip (10) is centered in the hollowed interior form of the drum (6) and comprises an internal overlap, a pin (11) equipped with a flange (11.1) able to ratchet into place into the additional pin of the locking device. Thus the connection is definitive, being sheltered from all manual intervention in the internal chamber constituted by the drum (6). Furthermore the connection of the two elements of the locking device allows for the connection of the two shells (1 -2) of the packaging, in such a way that the disk is additionally encircled by the circular peripheral connecting border of the drum and the shell (2) or by its circular hollow (2.3) substantially increasing the hold on the disk.

According to figure 5, the tube (8) presents an interior tapping whereas the pin (11) is threaded.

According to figure 6, the connection of the two elements of the locking device is carried out by means of snap-lock elements. In this embodiment, the drum (6) presents an interior central hollow of a larger diameter for the passage of a knob (12). It is also not ruled out that the male/female elements of the locking device also could contain self-adhesive connection elements such as those known under the "Velcro" or "Cric Crac" brand names.

It is very evident that a packaging unit according to the invention could be constructed to receive, according to the appropriate formats, a plurality of disks with their locking devices.

The characteristics emerge from the invention. In particular, one notes the theft-proof nature of the packaging, the disk being held by its central opening between the elements of the locking device forming a retaining axis. To remove the disk, one would have to completely open the packaging and removing the locking device, by cutting or other means, as the elements making up the locking device are all constructed from suitable materials.

In one particular use of the packaging for a laser disk, for example, the drum, whose depth can be adjusted, extends the female locking element to avoid any magnetic interference, particularly if said element is constructed of a metallic material.

One also notes the disk is held at several points.

Without straying from the scope of the invention, the packaging could present several variations of embodiment, having equivalent functions. For example it could be designed with a reinforcing crown (13) connected to or directly formed within the intermediate chamber of the drum being made in one piece with the walls of the latter.

Furthermore, an example has been described for use in packaging for disks. Other products could be protected with the aforementioned locking device. This

latter adapts to the product contained either by surrounding it at one or more points, or by penetrating one of the open or closed openings inherent to the constitution of the product considered and allowing the passage of the coupling elements of the locking device.

CLAIMS

-1- Packaging for products comprising two plastic connectible shells (1-2) between which characterized in that the first shell is constructed having a first element of at least one locking device rendering the packaging theft proof; the second shell is constructed having an shaped form, overlapping externally, of variable depth, constructed to receive and hold the second element of the locking device, the connection between said locking elements carried out within the internal chamber defined by the form opposite the first shell, said locking device adapting to the product contained, either by surrounding it at one or more points, or by penetrating one of the open or closed openings inherent to the constitution of the product considered and allowing the passage of the coupling elements of the locking device.

-2- Packaging for musical-recording disks or computer disks comprising two plastic connectible shells (1-2) shaped between which having elements for positioning or retention to receive the disk(s) or cassettes according to claim 1, characterized in that the first shell (1) is constructed in relationship to the center of the positioning opening of the disk with a first element (5) of a locking device rendering the packaging theft-proof, the second shell (2) is constructed in the axial plane of the center of the disk with a form in the shape of a drum (6) externally overlapping, of variable depth, constructed to receive and hold the second element of the locking device, the connection between said locking elements (5-7) is carried out within the interior chamber defined by the drum opposite the first shell.

-3- Packaging according to claim 2, characterized in that the first locking element is centered within the disk positioning and centering elements formed on the first shell.

-4- Packaging according to claim 2, characterized in that the drum (6) is constricted on the rear face (6.1) having a central interior hollow (6.2) allowing the passage, centering and holding of the second element (7) of the locking device.

-5- Packaging according to claim 4, characterized in that the drum presents, on its centering face of the second element (7), a wall (6.4) recessed internally forming a ring, whose extremity is located slightly within the connection plane of the drum and the general plane of the shell (2) of the circular hollow (2.3) constituted for the pre-positioning of the disk.

-6- Packaging according to claims 2 through 5 inclusive, characterized in that the frontal shell (1) is constructed in the part corresponding to the disk opening with a centering tube (8) of said disk, said pin being constructed to work together with a pin (11) comprising one single piece with a tip (10) mounted and centered on the interior wall of the drum, the connection between said pin and the locking tube in the position of the assembly elements.

- 7- Packaging according to claim 6, characterized in that the tube (8) presents elastically deformable retaining lips (8.1) and working together with pin (11) constructed with a retaining flange (11.1).
- 8- Packaging according to claim 6, characterized in that the tube (8) presents internal tapping and the pin (11) presents external threading.
- 9- Packaging according to claims 2 through 5, characterized in that the connection between the two elements (5 – 7) of the locking device is carried out by a snap lock.
- 10- Packaging according to claims 2 through 5, characterized in that the two elements (5 – 7) of the locking device work by means of self-adhesive elements.
- 11- Packaging according to claims 6, 7, 8, 9, and 10, characterized in that when the connection between the two elements of the locking device is made, the two shells of the packaging are brought together and the peripheral border of the drum opposite the disk ensures an additional support and holding function.

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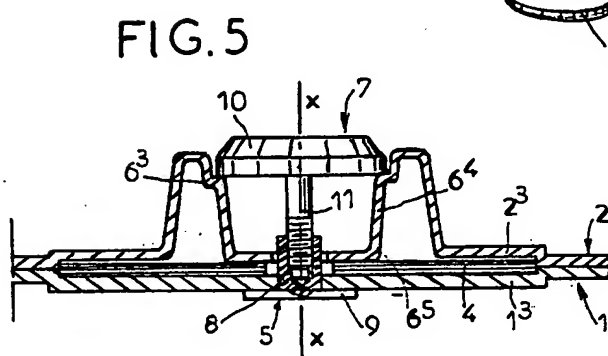
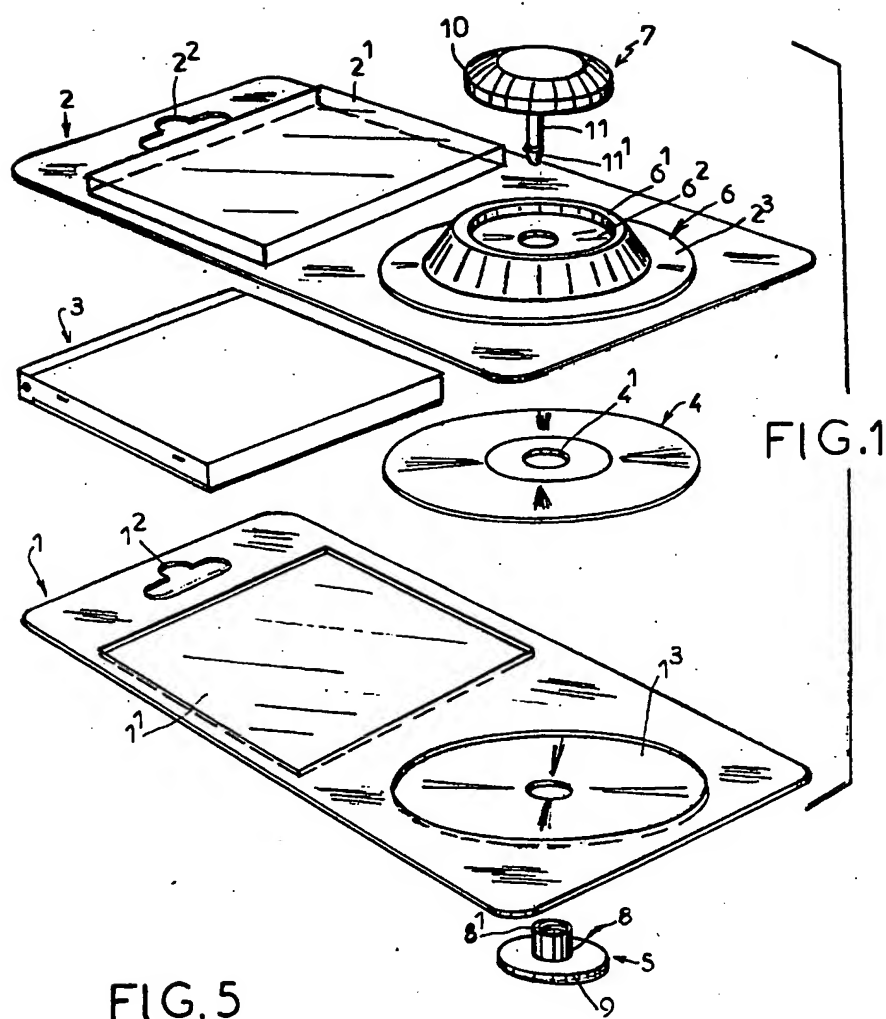


FIG.3

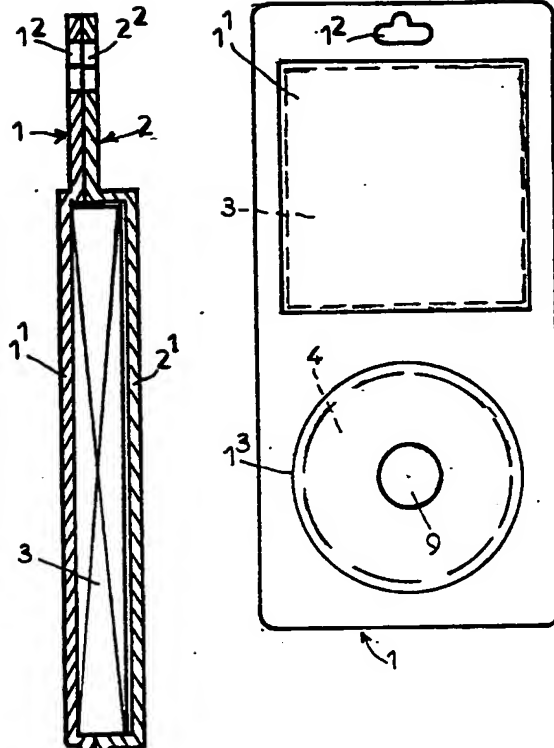


FIG.6

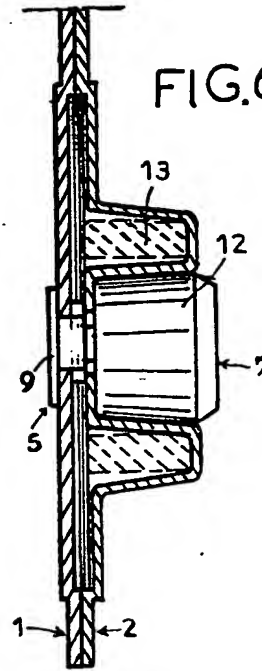


FIG.2

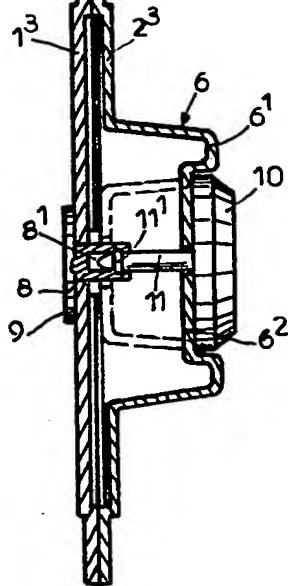


FIG.4

